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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,420	10/17/2000	Kazuo Ishikawa	5000-4810	3352

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 11/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/690,420

Applicant(s)
Ishikawa et al.

Examiner
Vanaman

Art Unit
3618



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Sep 10, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44, 47, 48, and 50 is/are pending in the application.
- 4a) Of the above, claim(s) 30-33, 35-37, 39, 41-44, 47, and 50 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-29 is/are allowed.
- 6) ☒ Claim(s) 4, 34, 38, 40, and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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Status of Application

1. Applicant's amendment, filed Sept 10, 2002, has been entered in the application. Claims 1-44, 47, 48 and 50 are pending, claims 45, 46 and 49 having been canceled by the most recent amendment.

Claims 30-33, 35-37, 39, 41-44, 47 and 50 remain pending, but are withdrawn from consideration as being directed to a non-elected species, there being no identified generic claim.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata in view of Matsuda (US 4,771,850). Iwata teaches a vehicle having an engine (not shown: note, for example, elements 19, 21, 22) and driving wheels, hydraulic brakes (31, 32, 33, 34) for the wheels, brake valves (35a, 35b, 36c, 36d, 37a, 37b, etc.) for adjusting the hydraulic brake pressure, a brake actuator (27), a plurality of wheel speed sensors (1, 2, 3, 4, col. 5, lines 3-9), a TCS/ABS controller which allows normal braking to occur, and which determines when a wheel deceleration exceeds a deceleration threshold value (col. 8, lines 27-35), and sets the brake valves such that a lower braking force is generated (note figure 9). The reference of Iwata fails to explicitly teach a torque converter and transmission in the vehicle, however both torque converters and transmissions are very well known in the art and known to be provided between engine outputs and driven wheels on motor vehicles, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a torque converter and transmission in order to allow the engine to drive the vehicle wheels.

The reference to Iwata fails to teach that the traction and slip control does not affect the degree of braking when the vehicle speed is below a predetermined value. Matsuda teaches a traction control system for a vehicle, wherein traction control is disabled or reduced in gain for

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vehicle speed below a threshold values (enabling/disabling criterion- note abstract lines 5-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to discontinue the operation of the TCS/ABS system of Iwata below a threshold speed value as suggested by Matsuda in order to allow the vehicle to be safely stopped.

4. Claims 34, 38, 40 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimanaka et al. (US 5,150,761) in view of Tsuno (US 5,719,565, filed 7/1996). Shimanaka et al. teach a vehicle having an engine (210) and a transmission (211) including a forward clutch (F/C) operated with a forward clutch valve (46), a reverse clutch (R/C) operated with a reverse clutch valve (68), a plurality of driving speed sensors (212, 212a) associated with a front and rear pair of wheels, one pair of which is driven by the transmission, a skid detector (219), wherein a transmission line pressure is decreased if the traction control determines that skidding occurs and controls an engine output power by decreasing a throttle valve opening (note col. 6, line 58 through col. 7, line 23).

The reference of Shimanaka et al. fails to teach the provision of a torque converter connecting the engine and transmission and driving wheel differential, however it is very old and well known to provide a torque converter to allow the engine to drive the transmission, and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a torque converter between the engine output and the transmission input in order to allow the engine to drive the wheels, similarly the use of a differential with the driving wheels of a vehicle, allowing different wheel speeds in cornering for example, is very old and well known, and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a differential to the driving wheels in order to allow the wheels to run at different speed when cornering, for example.

The reference of Shimanaka et al. fails to teach the use of a rate of change of wheel velocity in the determination of skidding occurrences, wherein each wheel speed is measured. Tsuno teaches a controller for anti-lock and slip control, wherein wheel speeds for all vehicle

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wheels are determined (sensors 5-8) and before processing, wheel speed rate of change (i.e., acceleration and deceleration- A3, A5) is additionally determined (step 130) the acceleration being predetermined (i.e., values DVW, DVWB) before control (i.e. steps 1130, 1140, 1150 occur before 1170 and 1180). It would have been obvious to one of ordinary skill in the art at the time of the invention to include an acceleration determination as taught by Tsuno in the controller of Shimanaka et al. for the purpose of controlling the magnitude of slip-control or anti-lock control based on the acceleration values, facilitating a faster reacquisition of traction for the vehicle.

Allowable Subject Matter

5. Claims 1-3 and 5-29 are allowed.

Response to Arguments

6. Applicant's arguments, filed with the amendment, have been carefully considered. As regards claim 9, the examiner appreciates applicant's clarifying remarks, which are persuasive, in combination with the amendment to claim 9. As regards the combination wherein the reference to Matsuda is used to modify the reference to Iwata, applicant's arguments are noted, however the reference of Matsuda has been relied upon for the more general teaching that it is not beyond the skill of the ordinary practitioner to employ a control system which either discontinues control, or sets a control value to a constant, when a governing condition drops below a particular threshold, for example, to prevent undesirable unexpected vehicle motion in low speed ranges when a vehicle is just being stopped or started. Applicant's comments concerning the reference to Shimanaka et al. are noted, however while they are not incorrect, they are also not complete: the transmission line pressure is indeed controlled in accordance with an engine throttle. What applicant has not additionally noted, however, is that the engine throttle (214) control is adjusted directly by the traction control (219), as can be seen from figure 1, and also from the specification

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at col. 3, lines 47-51. As regards the reference to Buschmann, the examiner agrees with applicant's position, however, please note that this reference has been withdrawn in view of the reference to Tsuno, cited previously, which does teach that a predetermined value based on wheel speed rate of change is employed.

Conclusion

7. Applicant is reminded that claims 30-33, 35-37, 39, 41-44, 47 and 50 remain pending, but are withdrawn from consideration

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is (703) 308-0424. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Assistant Commissioner for Patents

Washington, DC 20231

or faxed to :

(703) 305-3597 or 305-7687 (for formal communications intended for entry;
informal or draft communications may be faxed to the same number but should be
clearly labeled "UNOFFICIAL" or "DRAFT")

The Office has also established electronic fax servers for Technology Center 3600 as follows:

703-872-9326 (Official communications)

703-872-9327 (Official After Final communications)

703-872-9325 (Customer Service)

F. VANAMAN
Primary Examiner
Art Unit 3618

F. Vanaman
November 20, 2002



11/20/02